

ABSTRACT OF THE DISCLOSURE

5 A metering apparatus includes at least one pair of closed cylindrical housings each housing a
fluid exchange port. A metering screw penetrates each housing longitudinally and rotates,
first in clockwise, then in counter-clockwise senses during alternate cycles of the method
of the invention. Hollow rods are engaged with the screws so that the screws penetrate the
rods and move the rods along the screws longitudinally within the housings by screw
rotation. With the rods translating in a first direction a fluid is drawn into the housings
10 alternately through the port, while with the rods translating in the opposing direction, the
fluid is expelled from the same port. Plural sets of the pairs of closed housings are used with
dual channel fluid switches to move the fluid into one of each of the pairs of housing on a
first half of an operating cycle, and to draw the fluid from the one of the pairs of housings on
the second half of the cycle, with the pairs of housings exchanging roles cyclically.

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